

ANALYTICAL REPORT

PREPARED FOR

Attn: Kristoffer Hinskey
Arcadis U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Generated 5/21/2024 7:49:42 AM

JOB DESCRIPTION

Ford LTP

JOB NUMBER

240-204325-1

Eurofins Cleveland

Job Notes

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Authorization



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Authorized for release by
Michael DeMonico, Project Manager I
Michael.DeMonico@et.eurofinsus.com
(330)497-9396



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Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arcadis U.S., Inc.
Project: Ford LTP

Job ID: 240-204325-1

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Job Narrative 240-204325-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 5/11/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.2°C and 3.9°C.

GC/MS VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Method Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8260D SIM	Volatile Organic Compounds (GC/MS)	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396



Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-204325-1	TRIP BLANK_12	Water	05/08/24 00:00	05/11/24 08:00
240-204325-2	MW-03_050824	Water	05/08/24 09:15	05/11/24 08:00
240-204325-3	MW-05_050824	Water	05/08/24 10:30	05/11/24 08:00

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- 2
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Client Sample ID: TRIP BLANK_12

Lab Sample ID: 240-204325-1

No Detections.

Client Sample ID: MW-03_050824

Lab Sample ID: 240-204325-2

No Detections.

Client Sample ID: MW-05_050824

Lab Sample ID: 240-204325-3

No Detections.

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- 4
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- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Client Sample ID: TRIP BLANK_12

Lab Sample ID: 240-204325-1

Date Collected: 05/08/24 00:00

Matrix: Water

Date Received: 05/11/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 17:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 17:12	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 17:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 17:12	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 17:12	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		05/18/24 17:12	1
4-Bromofluorobenzene (Surr)	98		56 - 136		05/18/24 17:12	1
Toluene-d8 (Surr)	99		78 - 122		05/18/24 17:12	1
Dibromofluoromethane (Surr)	93		73 - 120		05/18/24 17:12	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Client Sample ID: MW-03_050824

Lab Sample ID: 240-204325-2

Date Collected: 05/08/24 09:15

Matrix: Water

Date Received: 05/11/24 08:00

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/17/24 00:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		68 - 127					05/17/24 00:48	1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 17:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 17:36	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 17:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 17:36	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 17:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 17:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137					05/18/24 17:36	1
4-Bromofluorobenzene (Surr)	96		56 - 136					05/18/24 17:36	1
Toluene-d8 (Surr)	100		78 - 122					05/18/24 17:36	1
Dibromofluoromethane (Surr)	94		73 - 120					05/18/24 17:36	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Client Sample ID: MW-05_050824

Lab Sample ID: 240-204325-3

Date Collected: 05/08/24 10:30

Matrix: Water

Date Received: 05/11/24 08:00

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/17/24 01:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		68 - 127					05/17/24 01:11	1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 18:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 18:00	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 18:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 18:00	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 18:00	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 18:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		62 - 137					05/18/24 18:00	1
4-Bromofluorobenzene (Surr)	96		56 - 136					05/18/24 18:00	1
Toluene-d8 (Surr)	98		78 - 122					05/18/24 18:00	1
Dibromofluoromethane (Surr)	92		73 - 120					05/18/24 18:00	1

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(62-137)	(56-136)	(78-122)	(73-120)
240-204325-1	TRIP BLANK_12	100	98	99	93
240-204325-2	MW-03_050824	99	96	100	94
240-204325-3	MW-05_050824	99	96	98	92
240-204404-A-4 MSD	Matrix Spike Duplicate	95	97	97	95
240-204404-B-4 MS	Matrix Spike	96	97	99	96
LCS 240-613537/6	Lab Control Sample	95	98	99	97
MB 240-613537/10	Method Blank	100	98	99	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260D SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(68-127)
240-204316-C-2 MS	Matrix Spike	102
240-204316-C-2 MSD	Matrix Spike Duplicate	101
240-204325-2	MW-03_050824	105
240-204325-3	MW-05_050824	103
LCS 240-613351/4	Lab Control Sample	98
MB 240-613351/6	Method Blank	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-613537/10

Matrix: Water

Analysis Batch: 613537

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/18/24 12:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/18/24 12:49	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 12:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/18/24 12:49	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/18/24 12:49	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/18/24 12:49	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		05/18/24 12:49	1
4-Bromofluorobenzene (Surr)	98		56 - 136		05/18/24 12:49	1
Toluene-d8 (Surr)	99		78 - 122		05/18/24 12:49	1
Dibromofluoromethane (Surr)	95		73 - 120		05/18/24 12:49	1

Lab Sample ID: LCS 240-613537/6

Matrix: Water

Analysis Batch: 613537

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	20.0	21.3		ug/L		107	63 - 134
cis-1,2-Dichloroethene	20.0	21.1		ug/L		105	77 - 123
Tetrachloroethene	20.0	21.3		ug/L		107	76 - 123
trans-1,2-Dichloroethene	20.0	20.3		ug/L		101	75 - 124
Trichloroethene	20.0	20.8		ug/L		104	70 - 122
Vinyl chloride	20.0	19.2		ug/L		96	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	98		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: 240-204404-A-4 MSD

Matrix: Water

Analysis Batch: 613537

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,1-Dichloroethene	1.0	U	20.0	19.2		ug/L		96	56 - 135	4	26
cis-1,2-Dichloroethene	1.0	U	20.0	18.8		ug/L		94	66 - 128	4	14
Tetrachloroethene	1.0	U	20.0	18.2		ug/L		91	62 - 131	6	20
trans-1,2-Dichloroethene	1.0	U	20.0	18.4		ug/L		92	56 - 136	4	15
Trichloroethene	1.0	U	20.0	18.4		ug/L		92	61 - 124	5	15
Vinyl chloride	1.0	U	20.0	18.2		ug/L		91	43 - 157	14	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		62 - 137
4-Bromofluorobenzene (Surr)	97		56 - 136
Toluene-d8 (Surr)	97		78 - 122

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QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-204404-A-4 MSD
Matrix: Water
Analysis Batch: 613537

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Dibromofluoromethane (Surr)	95		73 - 120

Lab Sample ID: 240-204404-B-4 MS
Matrix: Water
Analysis Batch: 613537

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	1.0	U	20.0	20.0		ug/L		100	56 - 135
cis-1,2-Dichloroethene	1.0	U	20.0	19.5		ug/L		97	66 - 128
Tetrachloroethene	1.0	U	20.0	19.5		ug/L		97	62 - 131
trans-1,2-Dichloroethene	1.0	U	20.0	19.1		ug/L		95	56 - 136
Trichloroethene	1.0	U	20.0	19.3		ug/L		96	61 - 124
Vinyl chloride	1.0	U	20.0	21.0		ug/L		105	43 - 157

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	96		62 - 137
4-Bromofluorobenzene (Surr)	97		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	96		73 - 120

Method: 8260D SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-613351/6
Matrix: Water
Analysis Batch: 613351

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/16/24 18:56	1

	<i>MB</i>	<i>MB</i>							
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>			
1,2-Dichloroethane-d4 (Surr)	100		68 - 127		05/16/24 18:56	1			

Lab Sample ID: LCS 240-613351/4
Matrix: Water
Analysis Batch: 613351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				
1,4-Dioxane	10.0	10.0		ug/L		100	75 - 121

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	98		68 - 127

Lab Sample ID: 240-204316-C-2 MS
Matrix: Water
Analysis Batch: 613351

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
1,4-Dioxane	2.0	U	10.0	10.5		ug/L		105	20 - 180

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QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Method: 8260D SIM - Volatile Organic Compounds (GC/MS) (Continued)

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	102		68 - 127

Lab Sample ID: 240-204316-C-2 MSD
Matrix: Water
Analysis Batch: 613351

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>Spike</i>	<i>MSD</i>	<i>MSD</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>RPD</i>	<i>RPD</i>
	<i>Result</i>	<i>Qualifier</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>		<i>Limit</i>
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	20 - 180	3	20

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	101		68 - 127

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QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

GC/MS VOA

Analysis Batch: 613351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204325-2	MW-03_050824	Total/NA	Water	8260D SIM	
240-204325-3	MW-05_050824	Total/NA	Water	8260D SIM	
MB 240-613351/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-613351/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-204316-C-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-204316-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

Analysis Batch: 613537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-204325-1	TRIP BLANK_12	Total/NA	Water	8260D	
240-204325-2	MW-03_050824	Total/NA	Water	8260D	
240-204325-3	MW-05_050824	Total/NA	Water	8260D	
MB 240-613537/10	Method Blank	Total/NA	Water	8260D	
LCS 240-613537/6	Lab Control Sample	Total/NA	Water	8260D	
240-204404-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
240-204404-B-4 MS	Matrix Spike	Total/NA	Water	8260D	

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Client Sample ID: TRIP BLANK_12

Lab Sample ID: 240-204325-1

Date Collected: 05/08/24 00:00

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613537	TJL2	EET CLE	05/18/24 17:12

Client Sample ID: MW-03_050824

Lab Sample ID: 240-204325-2

Date Collected: 05/08/24 09:15

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613537	TJL2	EET CLE	05/18/24 17:36
Total/NA	Analysis	8260D SIM		1	613351	CS	EET CLE	05/17/24 00:48

Client Sample ID: MW-05_050824

Lab Sample ID: 240-204325-3

Date Collected: 05/08/24 10:30

Matrix: Water

Date Received: 05/11/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	613537	TJL2	EET CLE	05/18/24 18:00
Total/NA	Analysis	8260D SIM		1	613351	CS	EET CLE	05/17/24 01:11

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396



Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-204325-1

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Chain of Custody Record

TestAmerica Laboratory location: Brighton — 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Client Contact		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other _____										TestAmerica Laboratories, Inc.											
Company Name: Arcadis		Client Project Manager: Kris Hinskey				Site Contact: Christina Weaver				Lab Contact: Mike DelMonico				COC No: 1217									
Address: 28550 Cabot Drive, Suite 500		Telephone: 248-994-2240				Telephone: 248-994-2240				Telephone: 330-497-9396				1 of 1 COCs									
City/State/Zip: Novi, MI, 48377		Email: kristoffer.hinskey@arcadis.com				Analysis Turnaround Time				Analyses				For lab use only									
Phone: 248-994-2240		Sampler Name: <i>Kent Rasper</i>				TAT if different from below				Filtered Sample (Y/N) Composite=C / Grab=G 1,1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM				Walk-in client									
Project Name: Ford LTP		Method of Shipment/Carrier:				<input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 10 day <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day								Lab sampling									
Project Number: 30206169.0401.03		Shipping/Tracking No:												Job/SDG No:									
PO # US3410018772														Sample Specific Notes / Special Instructions:									
Sample Identification		Sample Date	Sample Time	Matrix				Containers & Preservatives															
				Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc2	NaOH	Unpres	Other:							
TRIP BLANK_ 12		---	---	1							1						NG	X	X	X	X	X	1 Trip Blank
<i>MW-03_050824</i>		<i>5/8/24</i>	<i>0915</i>	<i>6</i>							<i>6</i>						NG	X	X	X	X	X	3 VOAs for 8260D 3 VOAs for 8260D SIM
<i>MW-05_050824</i>		<i>5/8/24</i>	<i>1030</i>	<i>6</i>							<i>6</i>						WG	X	X	X	X	X	" "

Logbook
204325

Client Arcadis Site Name _____ Cooler unpacked by TAMMY ROYER

Cooler Received on 5-11-24 Opened on 5-11-24

Reddy: 1st Grd Exp UPS FAS Waypoint Chert Drop Off Burofins Courier Other _____

Receipt/After-hours-Drop-off/Date/Time _____ Storage Location _____

Burofins Cooler # EC Room Box Client Cooler Box Other _____

Packing material used Bubble Wrap Foam Plastic Bag None Other _____

COOLANT Water Blue Ice Dry Ice Water None _____

1 Cooler temperature upon receipt IR GUN # 18 (CF 80.0 °C) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity leach Yes No

Were the seals on the outside of the cooler(s) signed & dated? Yes No N/A

Were tamper/custody seals on the bottle(s) or bottle kits (LIHG/MeHg)? Yes No No

Were tamper/custody seals intact and uncompromised? Yes No No

3 Shippers' packing slip attached to the cooler(s)? Yes No No

4. Did custody papers accompany the sample(s)? Yes No No

5 Were the custody papers relinquished & signed in the appropriate place? Yes No No

6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No No

7 Did all bottles arrive in good condition (Unbroken)? Yes No No

8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No No

9 For each sample, does the COC specify preservative (Y/N), # of containers (Y/N), and sample type of Grab/comp (Y/N)? Yes No No

10 Were correct bottle(s) used for the test(s) indicated? Yes No No

11 Sufficient quantity received to perform indicated analyses? Yes No No

12. Are these work share samples and all listed on the COC? Yes No No

If yes, Questions 13-17 have been checked at the originating laboratory

13 Were all preserved sample(s) at the correct pH upon receipt? Yes No N/A pH Strip Lot# HC439975

14. Were VOAs on the COC? Yes No No

15 Were air bubbles >6 mm in any VOA vials? Yes Larger than this No NA

16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Covered Yes No No

17 Was a LI HG or Me Hg trip blank present? Yes No No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by _____

19 SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory

Time preserved. _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation Date/Time VOAs Frozen. _____

Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC



Temperature readings

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Container Temp</u>	<u>Preservation Added</u>	<u>Preservation Lot Number</u>
TRIP BLANK_12	240-204325-A-1	Voa Vial 40ml - Hydrochloric Acid				
MW-03_050824	240-204325-A-2	Voa Vial 40ml - Hydrochloric Acid				
MW-03_050824	240-204325-B-2	Voa Vial 40ml - Hydrochloric Acid				
MW-03_050824	240-204325-C-2	Voa Vial 40ml - Hydrochloric Acid				
MW-03_050824	240-204325-D-2	Voa Vial 40ml - Hydrochloric Acid				
MW-03_050824	240-204325-E-2	Voa Vial 40ml - Hydrochloric Acid				
MW-03_050824	240-204325-F-2	Voa Vial 40ml - Hydrochloric Acid				
MW-05_050824	240-204325-A-3	Voa Vial 40ml - Hydrochloric Acid				
MW-05_050824	240-204325-B-3	Voa Vial 40ml - Hydrochloric Acid				
MW-05_050824	240-204325-C-3	Voa Vial 40ml - Hydrochloric Acid				
MW-05_050824	240-204325-D-3	Voa Vial 40ml - Hydrochloric Acid				
MW-05_050824	240-204325-E-3	Voa Vial 40ml - Hydrochloric Acid				
MW-05_050824	240-204325-F-3	Voa Vial 40ml - Hydrochloric Acid				

DATA VERIFICATION REPORT



May 28, 2024

Megan Meckley
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil
Project number: 30206169.401.03
Event Specific Scope of Work References: Sample COC
Laboratory: Eurofins Environment Testing LLC - Cleveland
Laboratory submittal: 204325-1
Sample date: 2024-05-08
Report received by CADENA: 2024-05-28
Initial Data Verification completed by CADENA: 2024-05-28
Number of Samples:3
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 204325-1

Sample Name: TRIP BLANK_12	MW-03_050824	MW-05_050824
Lab Sample ID: 2402043251	2402043252	2402043253
Sample Date: 5/8/2024	5/8/2024	5/8/2024

Analyte	Cas No.	Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																	
<u>OSW-8260D</u>																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260DSIM</u>																	
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---				